Ft W

(Wet Method Study)

Mark Hansen
05/27/2004 01:06 PM

To: Lawrence Starfield/R6/USEPA/US@EPA
cc:
Subject: Re: Follow up

We are reviewing the 1993 ORD report you sent. Tentatively, it seems to support the scientific validity of the Fort Worth method (particularly for buildings under 3 stories tall). David is attempting to get the original report to confirm that Charlottes conclusions are accurate and to more thoroughly evaluate the sampling and analysis methodology.

If I can be of assistance or answer any questions, please contact me at (214) 665-7548 or via email at hansen.mark@epa.gov.

Sincerely,

Mark Hansen
Chief
Toxics Enforcement Section (6EN-AT)

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Lawrence Starfield

Lawrence Starfield
05/27/2004 12:20 PM

To: Mark Hansen/R6/USEPA/US@EPA, Gerald Fontenot/R6/USEPA/US
cc:
Subject: Follow up

Follow up from the call this morning with Louise Wise:

1. I'll get her the charts of issues and Shirley is sending her the Stakeholder Involvement Plan.

2. She is sending the 1993 study of a wet demolition method; it will be circulated, and we need to know if it raises new issues.

3. She will send the comparison piece of St Louis vs. Ft Worth, and I need your help to "truth check" it, and get me consolidated comments.

4. We need to prepare a comparison piece between the NESHAP wet method, and the enhanced Fort Worth wet method.

5. I'd like to suggest to Ft W that they attach to their community bulletin the website document "Asbestos in your home" and the 1996 document "How to Manage Asbestos in School Buildings" with key language highlighted.

6. I'd like Ben to make sure that we have written responses to the negative comments on the Trial Lawyers' website. We need to build our record.

Did I miss anything?

Louise Wise

05/27/2004 11:04 AM

To: Lawrence Starfield/R6/USEPA/US@EPA
cc:
Subject: Summary "Asbestos Release During Building Demolition Activities"

Louise P. Wise
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----- Forwarded by Louise Wise/DC/USEPA/US on 05/27/2004 12:04 PM -----

Charlotte Bertrand

05/26/2004 07:20 PM

To: Louise Wise/DC/USEPA/US@EPA
cc:
Subject: Summary "Asbestos Release During Building Demolition Activities"

1993ORDPaper_Summary.wp

Charlotte Bertrand
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"Asbestos Release During Building Demolition Activities" EPA/600/J-93/194
Summary of Technical Report

In 1993, the EPA's Office of Research and Development published a technical report on asbestos released during 13 building demolitions. During the demolitions, asbestos monitoring was conducted to "evaluate if the demolition activities and their associated dust control practices were able to prevent downwind elevations of asbestos concentrations and to measure the worker exposure levels." Two buildings were demolished without the prior removal of asbestos containing materials, using wetting techniques to control emissions since the buildings were structurally unsound and access to the buildings was prohibited for safety reasons. For the other building demolitions, all identified friable asbestos had been removed in accordance with the EPA's asbestos NESHAP. The authors of this report, summarized the results of the study as follows: "While these sites can not be considered representative of all demolition activities, the sites where friable asbestos had been removed prior to demolition had no significant increase in the downwind asbestos concentration as a result of the demolition activity, except in the case of the implosion technique. The sites where no pre-removal was done *[demolition with wet method]* experienced several instances of brief, statistically significant elevations of downwind asbestos concentrations."

Wet Demolition Results. After the 1989 California earthquake, the EPA monitored the demolition of two buildings that were structurally unsound. Both buildings were two story brick buildings, asbestos content in the building could not be confirmed prior to demolition due to safety reasons. Emission control practices "consisted of spraying the demolition site with water from fire hoses while demolition bulldozers, end loaders, and trucks were operating." An analysis of the air monitoring results found statistically significant differences in asbestos concentration between upwind and downwind samples. Authors noted that asbestos levels may have detected the collapse of a three story building during the monitoring period. Monitoring was also conducted at the municipal dump receiving the demolition debris to determine worker exposure. "Analysis of the samples taken on the bulldozer operator revealed elevated levels." In addition, monitoring was conducted during the handling of the debris where "Instances of statistically significant elevation of airborne asbestos levels above background during the handling of debris despite the lack of visible emissions." "These data support the NESHAP premise that the absence of visible emission is not sufficient evidence to assume no fugitive particulate emission occurs."

Implosion Results. Monitoring was conducting during the implosion of a 26 story building from which all known asbestos had been removed in accordance with NESHAP. Elevated levels of asbestos were found between the upwind and downwind samplers. The authors concluded that "the forces involved in the collapse of a 26 story building provide sufficient energy to make non-friable asbestos containing materials friable."

Structurally Sound NESHAP Demolitions. Asbestos release was monitored during the demolition of eight two-story Army barracks in Texas. The buildings were demolished using a bulldozer and backhoe, no wetting was used. Air samplers were placed at varying heights and distances downwind of the demolition site. No statistical difference was found in upwind and

downwind samples. In Alaska, monitoring was conducted at the demolition of two school buildings. All friable asbestos had been removed in accordance with the asbestos NESHAP. During this demolition workers "made a marginal attempt to wet debris" with an "insufficient" volume of water to wet the materials -- there was light rain during the demolition of one of the two buildings. Sampling did not indicate a statistical difference in upwind and downwind concentrations.

Comparison of Fort Worth Method with NESHAP Imminent Danger of Collapse

Demolition Activity	NESHAP Imminent Danger of Collapse	Fort Worth Method
Notification	Notification with Imminent Danger of Collapse Certification. (Filed with NESHAP Delegated Authority)	Notification of Demolition to NESHAP Delegated Agency.
Public Involvement Plan	None	There is a Stakeholder Involvement Plan, public meetings, bulletins, and web site.
Removal of Regulated Asbestos Containing Material (RACM)	No removal, due to hazards to personnel entering structure.	Removal of RACM amounts above regulatory threshold, (including all Thermal System Insulation, Ceiling Tiles, Acoustic Spray-on Texturing, Spray-on Fire Proofing, etc.),prior to demolition.
Limits in size of structure	None	Limited to structures three stories in height (35 ft)
Removal of Vermiculite	None	**All** Vermiculite materials to be removed prior to demolition, regardless of amount.
Demolition Controls	Building demolished with Cat I, Cat II, exterior wetting to control visible emissions.	. Building deconstructed with Cat I and Cat II, wet methods, before, during and after demolition. .
Ambient Air Monitoring	None	Extensive during pilot; permanent amount of monitors to be reassessed after demo.
Soil Monitoring/ Cleanup	None	1 to 3" soil cleanup
Transportation of Demolition Waste	Wrecked building and all asbestos loaded into unlined, unsealed, uncovered truck.	Pre-demolition RACM handled and transported to asbestos landfill in compliance with NESHAP. Deconstructed building classified as asbestos waste, taken wet to asbestos landfill with liquid adsorbent booms in truck bed to control any water leakage and covers on trucks.

Collection & Disposal of Water Runoff	No?	Yes
Stop Work Authority if there are Visible Releases	None	Yes. EPA, the City, and TDH, each have authority to stop work.
Remediation Plan	None	Yes
Site Closure	No provision for cleanup of any remaining Cat I, Cat II, or RACM after wrecking.	Visual inspection and cleanup of site prior to closure to remove any remaining debris.

Table - 1 Comparison of the Asbestos NESHAP and the Fort Worth Method for Demolition of Substandard Structures

PROJECT COMPONENT	NESHAP (In Danger of Imminent Collapse) EPA United States Environmental Protection Agency	NESHAP (Not in Imminent Danger of Collapse) EPA United States Environmental Protection Agency	FORT WORTH METHOD (Not in Danger of Imminent Collapse) FORT WORTH
ASBESTOS ASSESSMENT	Not required.	Full AHERA Level Asbestos Assessment.	Full AHERA Level Asbestos Assessment.
DEMOLITION NOTIFICATION	Written notification as early as possible before, but not later than the following working day.	Written notification at least ten working days before work begins.	Written notification at least TWO working days before work begins.
REMOVAL OF RACM PRIOR TO DEMOLITION	RACM not removed prior to demolition.	Remove RACM under full containment if there is: 1. At least 80 linear meters (260 linear feet) on pipes or at least 15 square meters (160 square feet) on other facility components; or 2. At least 1 cubic meter (35 cubic feet) off facility components where the length or area could not be measured previously. Adequately wet asbestos-containing waste material. After wetting, seal in leak-tight containers while wet. If materials will not fit into containers without additional breakage, put materials in leak-tight wrapping. Label containers or wrapped materials using OSHA compliant warning labels.	RACM not removed prior to demolition. *Note:* SPRAY-ON FIREPROOFING AND LARGE QUANTITIES OF THERMAL SYSTEM INSULATION WILL BE ADDRESSED UNDER FULL CONTAINMENT CONDITIONS.
EMISSIONS CONTROLS DURING DEMOLITION	Discharge no Visible Emissions from RACM or asbestos-containing waste material.	Discharge no Visible Emissions from RACM or asbestos-containing waste material.	Discharge no Visible Emissions from RACM or asbestos-containing waste material.
HANDLING PROCEDURES FOR DEMOLITION ASBESTOS-CONTAINING WASTE MATERIAL	Adequately wet the portion of the facility that contains RACM **during** the wrecking operation. Adequately wet asbestos-containing waste material at all times **after** demolition and keep wet during handling and loading for transport to a disposal site. Asbestos-containing waste materials do not have to be sealed in leak-tight containers or wrapping, but may be transported and disposed of in bulk.	Adequately wet asbestos-containing waste material at all **times after** demolition and keep wet during handling and loading for transport to a disposal site. Asbestos-containing waste materials demolished in place do not have to be sealed in leak-tight containers or wrapping, but may be transported and disposed of in bulk. *Note:* Does not apply to Category I Non-Friable ACM waste and Category II Non-Friable ACM waste that did not become crumbled, pulverized, or reduced to powder.	Adequately wet THE FACILITY during the wrecking operation. Adequately wet DEMOLITION DEBRIS at all times **after** demolition and keep wet during handling and loading for transport to a disposal site. WASTE MATERIALS TO BE DISPOSED IN BULK WITHIN TRAILERS COVERED WITH TARPS.
TRANSPORTATION OF DEMOLITION ASBESTOS-CONTAINING WASTE MATERIAL	Mark vehicles used to transport asbestos-containing waste material during the loading and unloading of waste so that signs are visible. Manifest RACM shipments.	Mark vehicles used to transport asbestos-containing waste material during the loading and unloading of waste so that signs are visible. Manifest RACM shipments.	Mark vehicles used to transport asbestos-containing waste material during the loading and unloading of waste so that signs are visible. Manifest RACM shipments.
DISPOSAL OF DEMOLITION ASBESTOS-CONTAINING WASTE MATERIAL	Deposit all asbestos-containing waste material as soon as practical at a waste disposal site approved for asbestos disposal, unless it is Category I Non-Friable ACM that is not RACM.	Deposit all asbestos-containing waste material as soon as practical at a waste disposal site approved for asbestos disposal, unless it is Category I Non-Friable ACM that is not RACM.	Deposit all asbestos-containing waste material as soon as practical at a waste disposal site approved for asbestos disposal, unless it is Category I Non-Friable ACM that is not RACM.
SITE SUPERVISION DURING DEMOLITION	At least one representative trained in the NESHAP shall be present on site.	At least one representative trained in the NESHAP shall be present on site.	At least one representative trained in the NESHAP shall be present on site.
RECORDS MAINTENANCE	Maintain waste disposal records for at least two years.	Maintain waste disposal records for at least two years.	Maintain waste disposal records for at least two years.
STORMWATER MANAGEMENT	Not specified.	Not specified.	Comply with Chapter 12.5, Article III, "Storm Water Protection," Code of the City of Fort Worth. Use best management practices to control runoff as necessary.
OUTDOOR AIR MONITORING	OSHA monitoring of workers.	OSHA monitoring of workers.	AREA SAMPLING TO BE PERFORMED AT ALL FOUR CORNERS OF THE JOB SITE. OSHA monitoring of workers.
WETTING PROCEDURES	Adequately wet.	Adequately wet.	Utilize fire hose equipped with variable rate nozzle to allow for "misting".